

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 to 20 (canceled).

Claim 21 (currently amended): A method for manufacturing a lightweight valve with a valve stem, a hollow valve cone and a valve disk closing the valve cone, the method comprising:
producing a first one-piece component forming the valve disk with [[the]] a force transmission element by casting, forming and/or a powder metallurgy method, the force transmission element including a first end integrally connected to a center of the valve disk and a second end defining a stop surface;

producing a second one-piece component forming the valve stem and the valve cone, the second one-piece component having an inner wall defining a hollow space within the valve stem and the valve cone, the valve stem including an annular shoulder formed by a width increase of the hollow space into the inner wall; and

joining the first and second components together by placing the force transmission element into the hollow space, bringing the inner wall and stop surface of the force transmission element into contact to bear against the annular shoulder and connecting the first and second components by at least one of a material, non-positive and positive connection.

Claims 22 to 25 (canceled).

Claim 26 (currently amended): The method as claimed in claim [[25]] 21 wherein the annular shoulder axial-step is [[a]] fully circular-shoulder.

Claim 27 (currently amended): The method as claimed in claim [[25]] 21 wherein the annular shoulder axial-step has a surface extending in a plane that is perpendicular to a longitudinal central axis of the valve stem.

Claim 28 (currently amended): The method as claimed in claim 21 wherein the force transmission element has a constant cross section over an entire length thereof.

Claims 29 and 30 (canceled).

Claim 31 (currently amended): A method for manufacturing a lightweight valve with a valve stem, a hollow valve cone and a valve disk closing the valve cone, the valve stem being provided with a hollow space at an end facing the valve disk, the valve disk also having a force transmission element extending through the hollow valve cone into the stem hollow space, the method comprising:

producing a first one-piece component forming the valve disk with the force transmission element by casting, forming and/or a powder metallurgy method, the force transmission element including a first end integrally connected to a center of the valve disk and a second end including a bearing surface having a conical shape;

producing a second one-piece component forming the valve stem and the valve cone, the second one-piece component having an inner wall defining a hollow space within the valve stem and the valve cone, the inner wall increasing in width as the second one-piece component extends away from the valve cone to the valve stem such that a portion of the inner wall of the valve stem form a countersurface having a conical shape; and

joining the first and second components together by placing the force transmission element into the hollow space, bringing the bearing surface of the force transmission element to bear against the countersurface and connecting the first and second components by at least one of a material, non-positive and positive connection;

— wherein the force transmission element has a bearing surface extending in a direction of a longitudinal central axis of the force transmission element and bears flat against a correspondingly designed countersurface of the stem hollow space after the first and second components are joined together, the bearing surface and the countersurface both having a conical shape.

Claim 32 (previously presented): The method as recited in claim 31 wherein the bearing surface also bears against an inner wall of the hollow valve cone.

Claim 33 (canceled).

Claim 34 (previously presented): The method as claimed in claim 31 wherein the countersurface is provided with at least one recess for forming a positive connection between force transmission element and valve stem.

Claim 35 (previously presented): The method as claimed in claim 34 wherein the recess is formed as an annular groove.

Claim 36 (currently amended): The method as claimed in claim 21 wherein the second end the force transmission element has an end face with a blind hole.

Claim 37 (previously presented): The method as claimed in claim 21 wherein the valve cone is formed by a tulip-shaped widening of the end of the valve stem.

Claim 38 (currently amended): The method as claimed in claim 21 wherein a connection between the force transmission element and valve stem is designed so that forces acting on the valve disk during operation are introduced ~~essentially completely~~ via the force transmission element into the valve stem.

Claim 39 (previously presented): The method as claimed in claim 21 wherein the valve disk has a supporting portion against which the valve cone bears flat in sections in an end region of greater diameter.

Claim 40 (previously presented): The method as claimed in claim 21 wherein the valve stem is subsequently hardened in an end region facing away from the valve disk.

Claim 41 (currently amended): The method as claimed in claim [[30]] 40 wherein the valve stem is inductively hardened.

Claim 42 (previously presented): The method as claimed in claim 21 wherein the valve cone and the valve disk are welded together.

Claim 43 (currently amended): The method as recited in claim [[32]] 42 wherein the valve cone and the valve disk are welded together by beam welding or fusion welding.

Claim 44 (previously presented): The method as claimed in claim 21 wherein an outer surface of the lightweight valve is provided with a protective layer by plating.

Claim 45 (previously presented): The method as recited in claim 21 wherein the valve disk has a recess defined therein that has an edge region including an edge step and the joining step includes engaging an end of greater diameter of the hollow valve cone in the recess of the valve disk and welding the valve cone in the recess.